McCutchen, Doyle, Brown & Enersen, LLP (415) 393-2000
Three Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOT STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 1 of 19 Attorney Docket No. 22962-7005

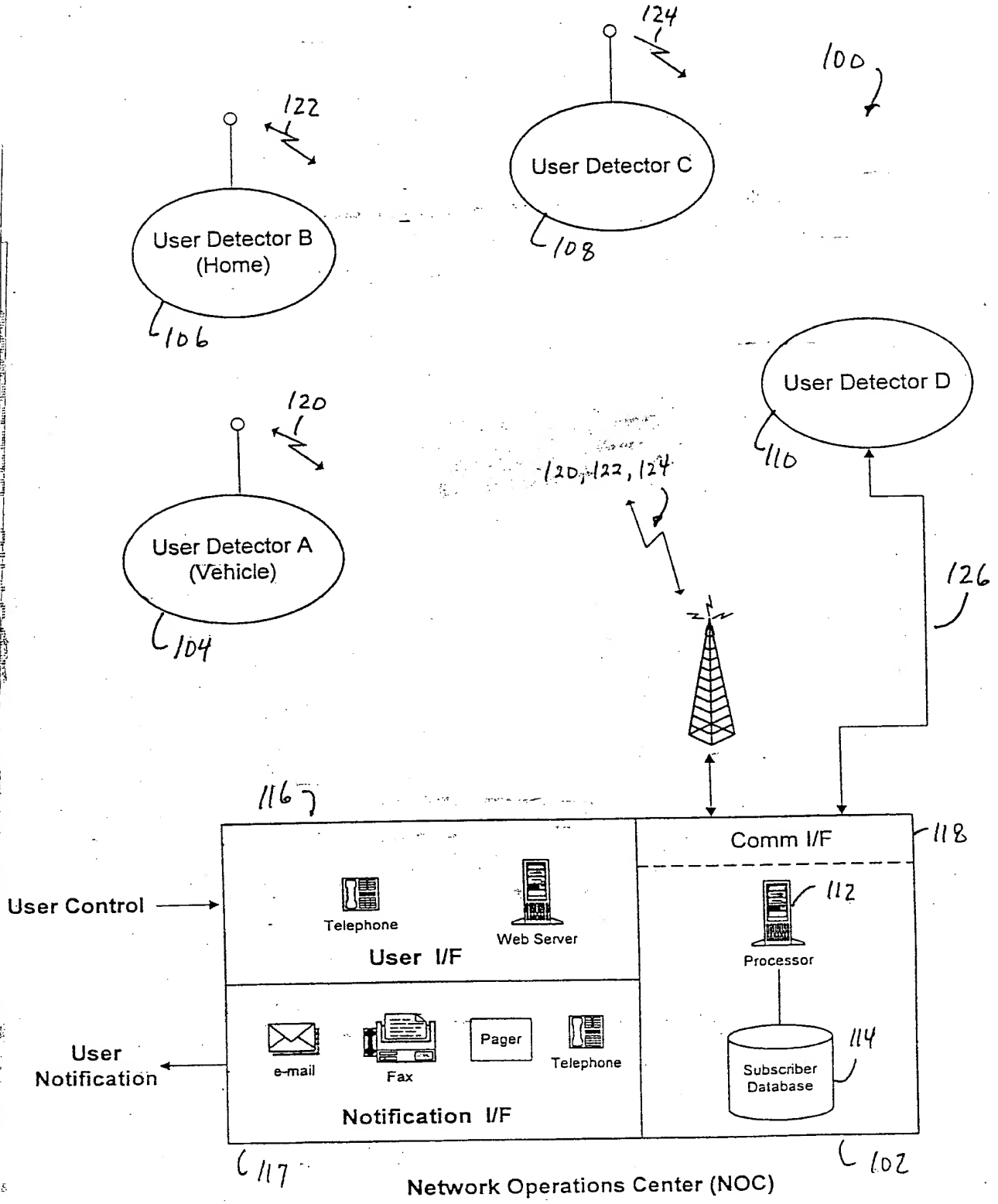


FIG. 1

[redacted]utchen, Doyle, Brown & Enersen, LLP (415) 393-2000
[redacted]e Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOT STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 2 of 19 Attorney Docket No. 22962-7005

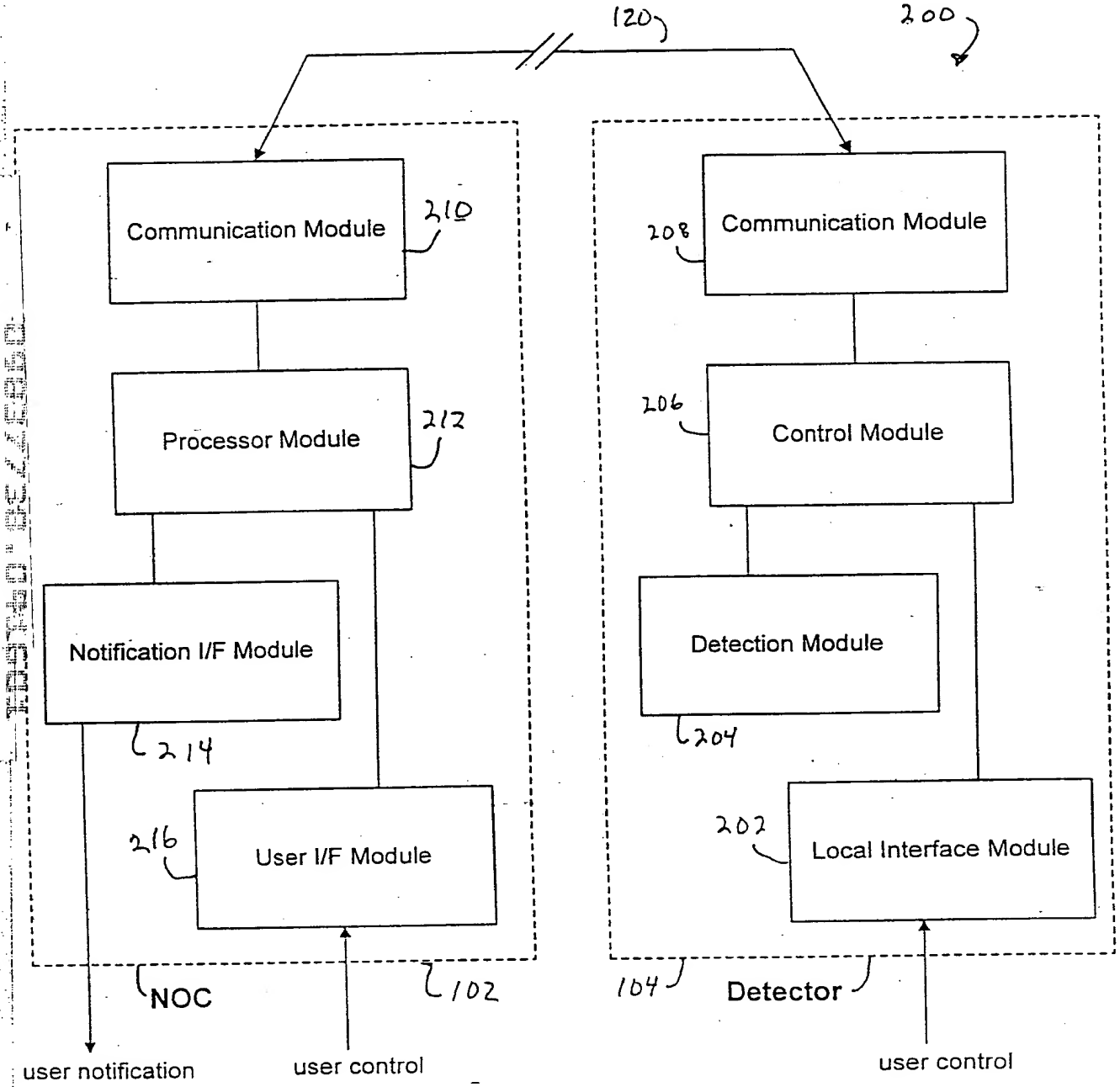
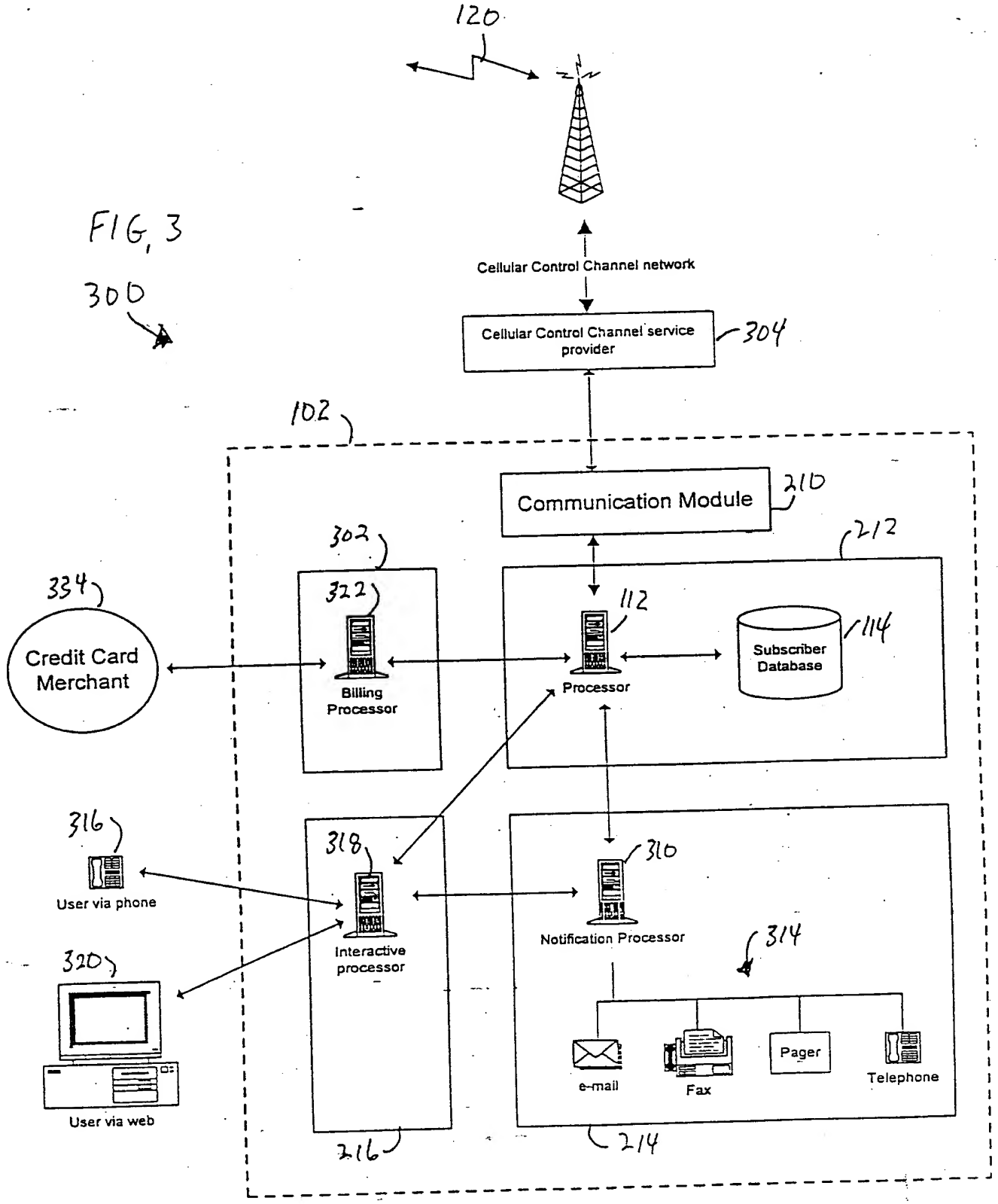


FIG. 2

FIG. 3


120
300
Cellular Control Channel network
Cellular Control Channel service provider
304
102
Communication Module
210
212
302
322
334
Credit Card Merchant
Billing Processor
112
Processor
Subscriber Database
114
316
User via phone
318
Interactive processor
310
Notification Processor
314
320
User via web
e-mail
Fax
Pager
Telephone
216
214

McCutchen, Doyle, Brown & Enersen, LLP (415) 393-200
Three Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOT STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 4 of 19 Attorney Docket No. 22962-7005

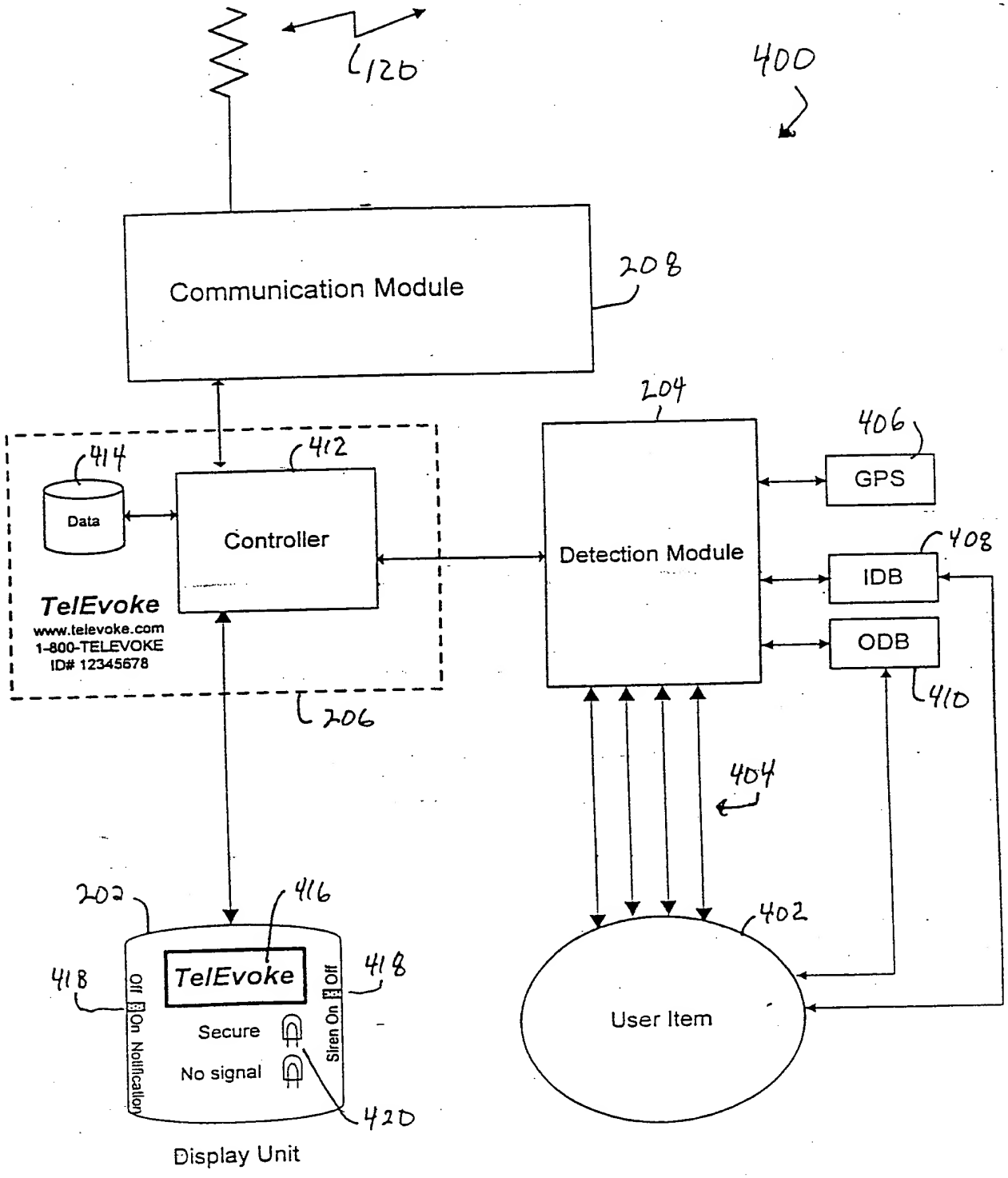


FIG. 4

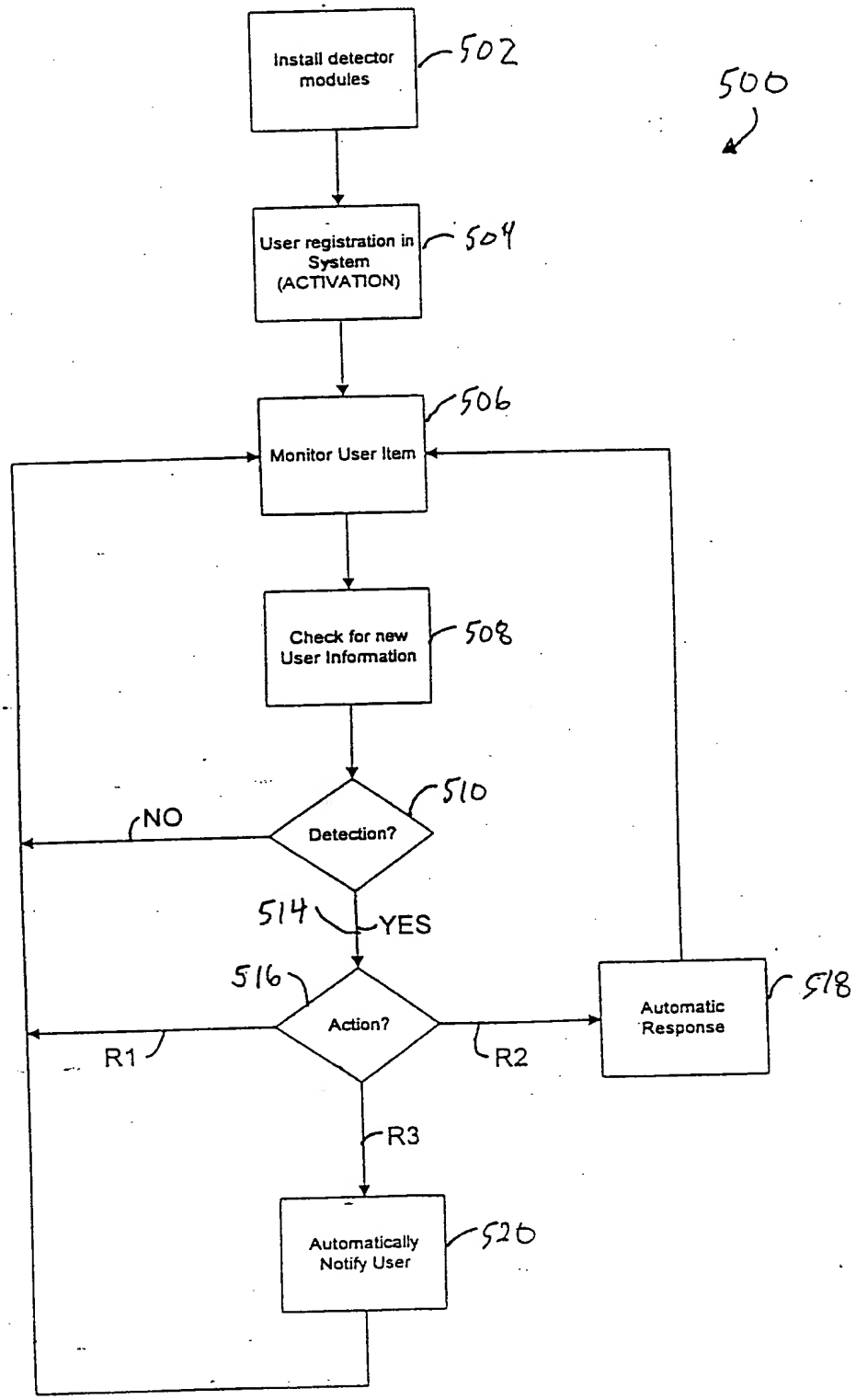
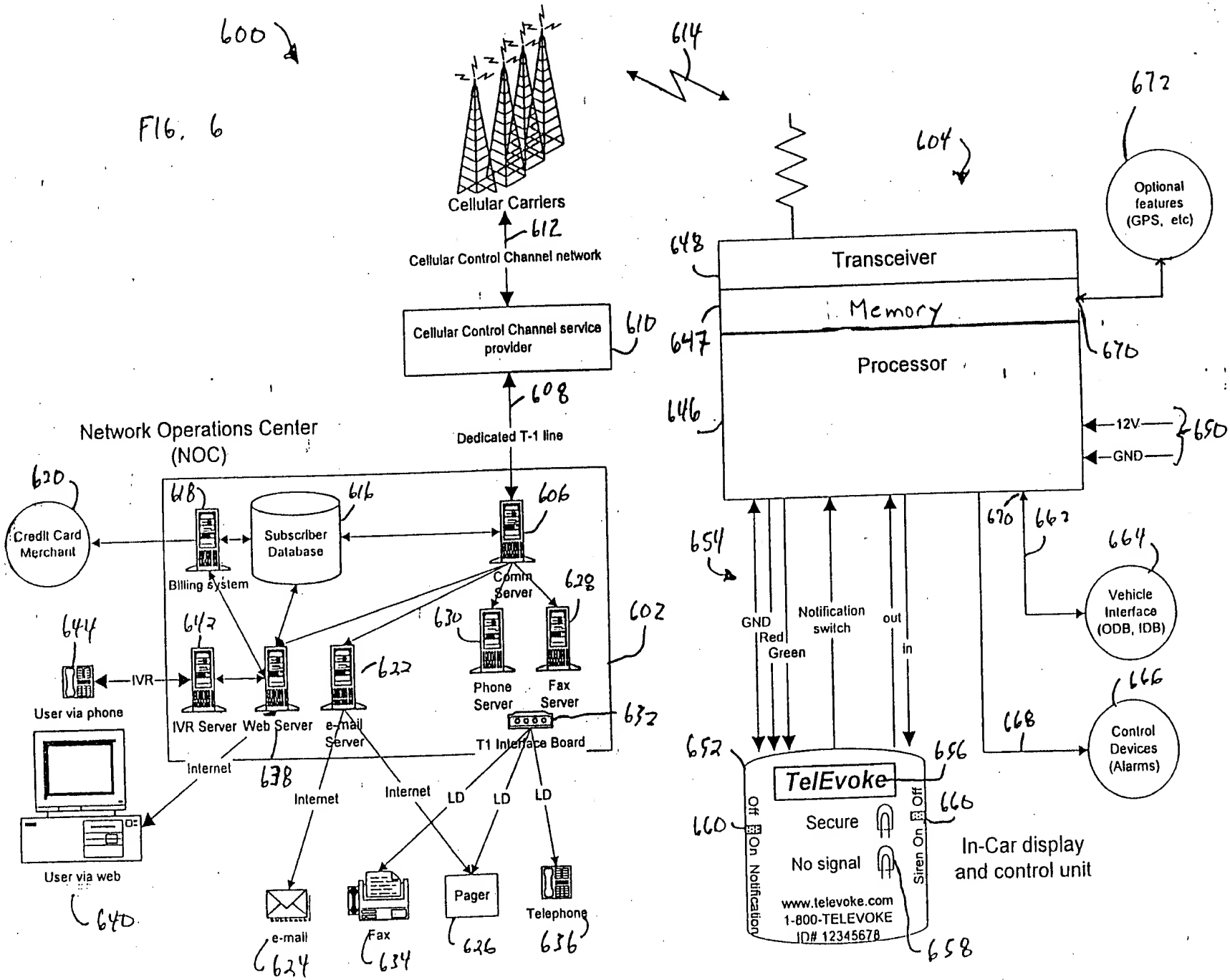

Install detector modules
502
500
User registration in System (ACTIVATION)
504
Monitor User Item
506
Check for new User Information
508
Detection?
510
NO
514
YES
516
Action?
R1
R2
R3
Automatic Response
518
Automatically Notify User
520

FIG. 5

FIG. 6



Townsend and Townsend and Crew LLP, Two Embarcadero Center, 8th Floor, San Francisco, California 94111-3834 (415) 576-0200
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Enstow, et al.
Titled: SOFTWARE AND PROTOCOL STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mail Label No.: EL710236861US
Figure 6 of 12
Attorney Docket No. 22962-7005

[redacted]chen, Doyle, Brown & Enersen, LLP (415) 393-2000
Three Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOT STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 7 of 19 Attorney Docket No. 22962-7005

700

ID NUMBER	CONDITION
0	Doors Lock/Unlocked
1	Windows Up/Down
2	Alarm Arm/Disarm
3	Sunroof Open/Close
4	Trunk Open/Close
5	Lights On/Off
6	Horn On/Off
7	Engine
8	Ignition
9	GPS Tracking

704

702

FIG. 7

[redacted]cCutchen, Doyle, Brown & Enersen, LLP (415) 393-2000
Three Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOT STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 8 of 19 Attorney Docket No. 22962-7005

FIG. 8

800

802 Interface type	804 Device
serial port	IDB (Doors Lock/Unlocked)
serial port	IDB (Windows Up/Down)
twist pair	Alarm Arm/Disarm
serial port	IDB (Sunroof Open/ Close)
serial port	IDB (Trunk Open/Close)
serial port	IDB (Lights On/Off)
twist pair	Horn On/Off
serial port	OBD (Engine)
serial port	OBD (Ignition)
806 parallel port	GPS Tracking 808
twist pair	Misc.

IDB = Intelligent Data Bus (devices available)

OBD = On Board Diagnostic (engine functions)

[redacted]utchen, Doyle, Brown & Enersen, LLP (415) 393-2000
[redacted]ce Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOT STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 9 of 19 Attorney Docket No. 22962-7005

Televoke Login Page

TELEVOKE

Welcome to televoke.net

Device ID#: [ ] 902

Passcode: [ ] 904

ENTER

How to get Televoke?
Support

Copyright © 1999 Televoke, Inc. All rights reserved.

Note: this is a non-public website and is protected by password security. All content at www.televoke.net and its sub directories is proprietary and confidential

900

FIG. 9A

[redacted]itchen, Doyle, Brown & Enersen, LLP (415) 393-2000
[redacted] Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOT STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 10 of 19 Attorney Docket No. 22962-7005

Televoke - Notification

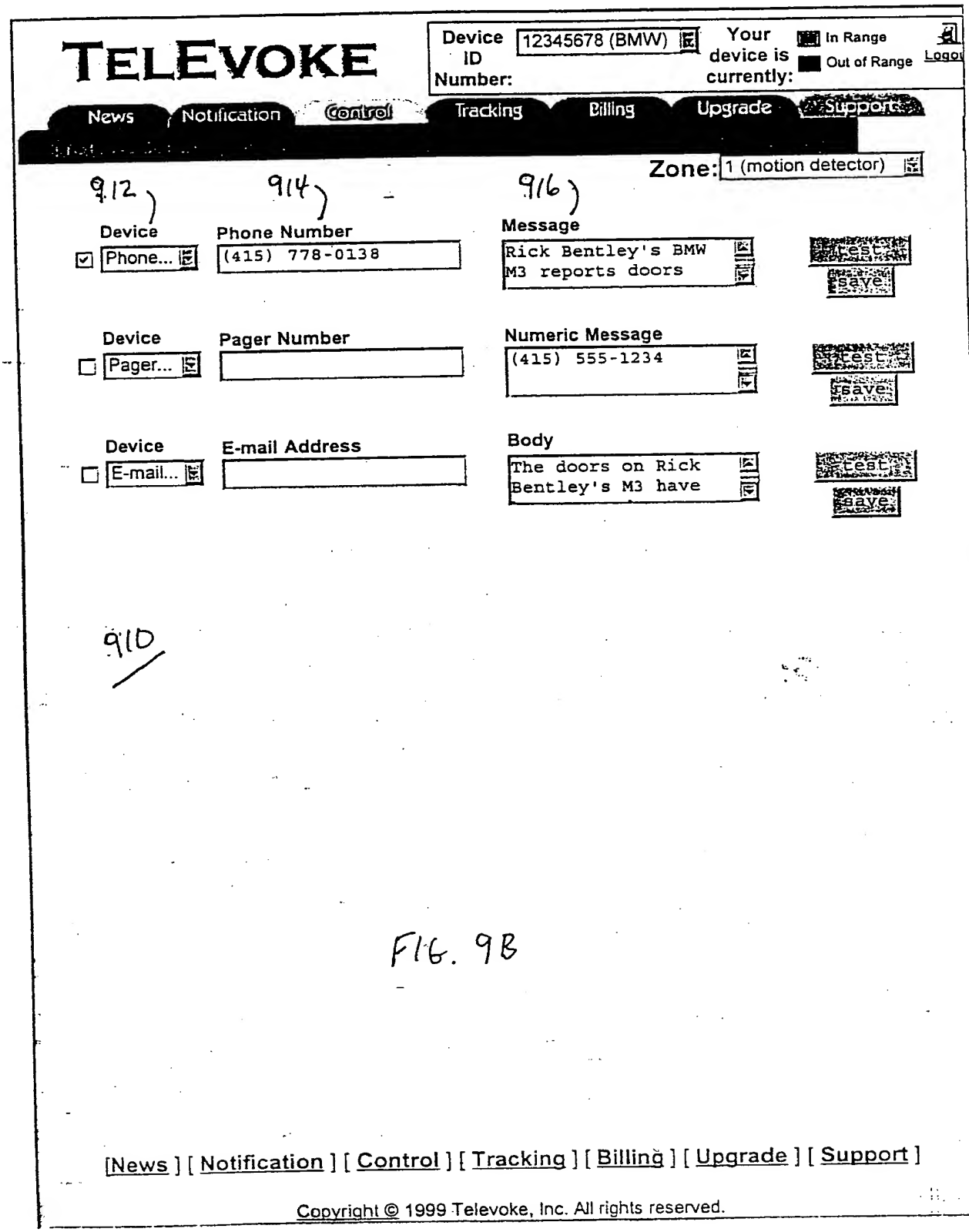


FIG. 9B

McCutchen, Doyle, Brown & Enersen, LLP (415) 393-2000
Three Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOT STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 11 of 19 Attorney Docket No. 22962-7005

Televoke Control Page

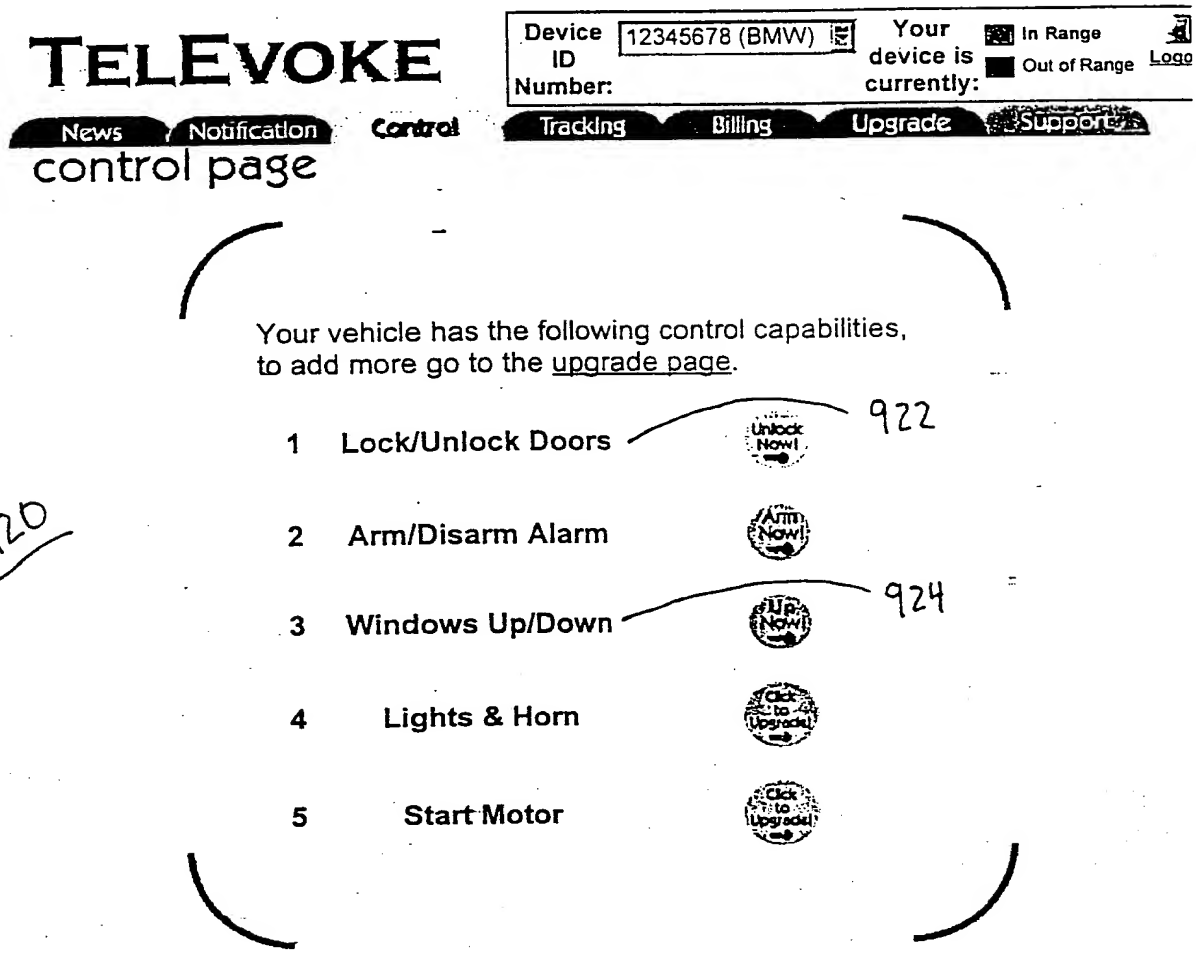


FIG. 9C

Televoke News and Events Page

TELEVOKE

Device ID Number: 12345678 (BMW) Your device is currently: In Range / Out of Range Logo

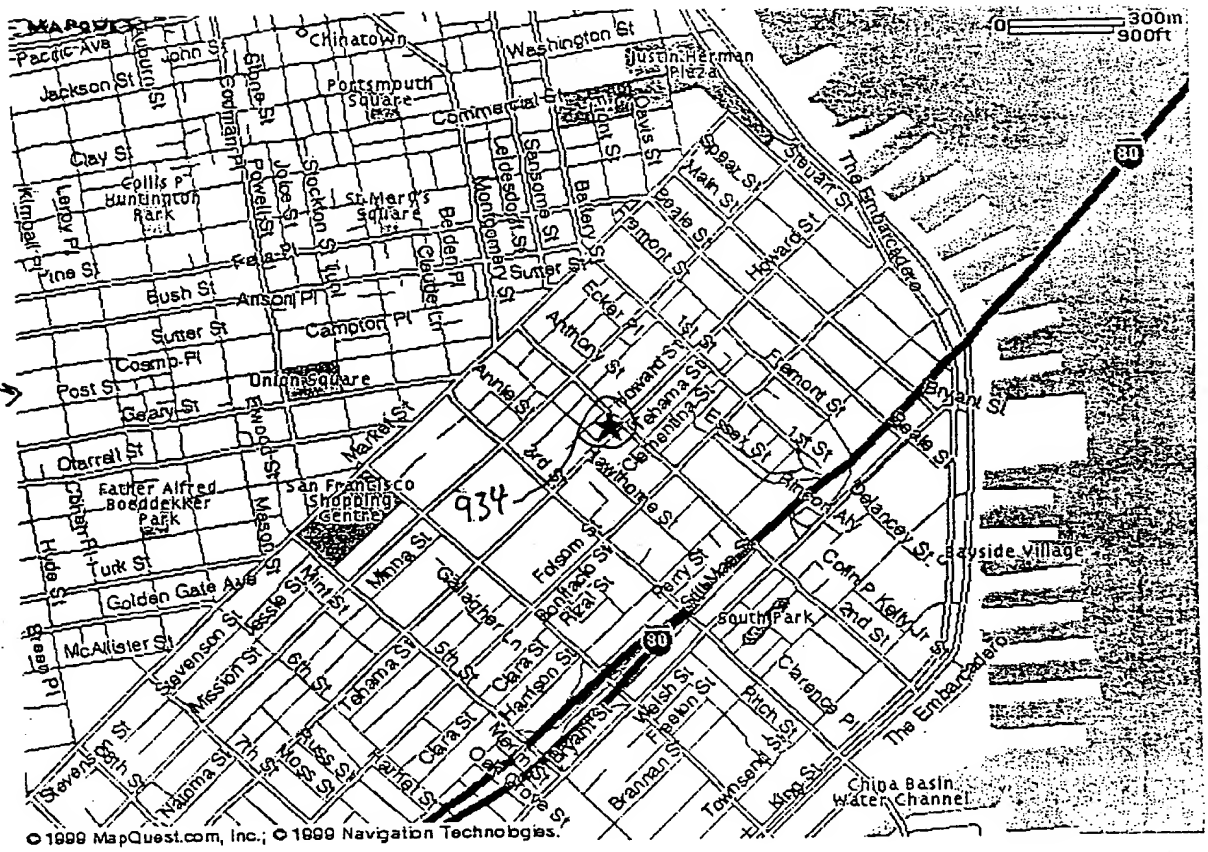
News | Notification | Control | Tracking | Billing | Upgrade | Support

tracking page

930

Your automobile is currently nearest:
Howard and New Montgomery in San Francisco, California.
It is currently stationary and hasn't moved for the last 3 hours.

932



Show vehicle position for the last 1 hour

[News] [Notification] [Control] [Tracking] [Billing] [Upgrade] [Support]

Copyright © 1999 Televoke, Inc. All rights reserved.

FIG. 9D

Televoke News and Events Page

TELEVOKE

Device ID Number: 12345678 (BMW) Your device is currently: In Range Out of Range Logo

News | Notification | Control | Tracking | Billing | Upgrade | Support

billing page

940

Activity for the current billing period starting on 4/1/99. Click here for previous billing periods.

942 944 946 948 950

Event #	Type	Date	Time	Action	Charges
162	Notification	4/01/99	11:42pm	called: (415) 555-1234	N/A
163	Notification	4/01/99	11:42pm	paged: (415) 555-4321	N/A
164	Notification	4/01/99	11:42pm	e-mail: rick@televoke.com	N/A
166	Control	4/05/99	2:30pm	unlock doors	N/A
167	Tracking	4/12/99	6:45pm	web location	N/A
168	Control	4/17/99	6:13pm	unlock doors	$0.50
168	Notification	4/20/99	10:49pm	called: (415) 555-1234	$0.50
169	Notification	4/20/99	10:49pm	paged: (415) 555-4321	$0.50
170	Notification	4/20/99	10:49pm	e-mail: rick@televoke.com	$0.50

Your current plan includes 5 free events per month. To upgrade your plan for more included events, or more features click on UPGRADE.

[News] [Notification] [Control] [Tracking] [Billing] [Upgrade] [Support]

Copyright © 1999 Televoke, Inc. All rights reserved.

FIG. 9E

1005

1010

1015

Table 1 Downstream Message Codes

Function	Message Name	Code
Account Maintenance	*D_Activate_Account*	WC1
Account Maintenance	*D_Deactivate_Account*	WC2
Remote Vehicle Tracking	*D_Get_Last Known_Position*	1
Remote Vehicle Tracking	*D_Get_Last_8_Pos_5_min*	WC3
Remote Vehicle Tracking	*D_Get_Last_8_Pos_1_hour*	WC4
Remote Vehicle Tracking	*D_Get_Last_8_Stops*	WC5
Remote Vehicle Control (G4 Systems Only)	*D_Arm_and_Lock*	2
Remote Vehicle Control (G4 Systems Only)	*D_Disarm_and_Unlock*	3
Remote Vehicle Control (G4 Systems Only)	*D_Activate_Output_A*	4
Remote Vehicle Control (G4 Systems Only)	*D_Activate_Output_B*	5
Remote Vehicle Control (G4 Systems Only)	*D_Activate_Output_C*	6
Remote Vehicle Control (G4 Systems Only)	*D_Disable_Sensor_A*	WC6
Remote Vehicle Control (G4 Systems Only)	*D_Enable_Sensor_A*	WC7
Remote Vehicle Control (G4 Systems Only)	*D_Disable_Sensor_B*	WC8
Remote Vehicle Control (G4 Systems Only)	*D_Enable_Sensor_B*	WC9
Remote Vehicle Control (G4 Systems Only)	*D_Disable_Sensor_C*	WC10
Remote Vehicle Control (G4 Systems Only)	*D_Enable_Sensor_C*	WC11
Emergency Button and Impact Sensor Response	*D_Received_and_Dispatched*	7

1012

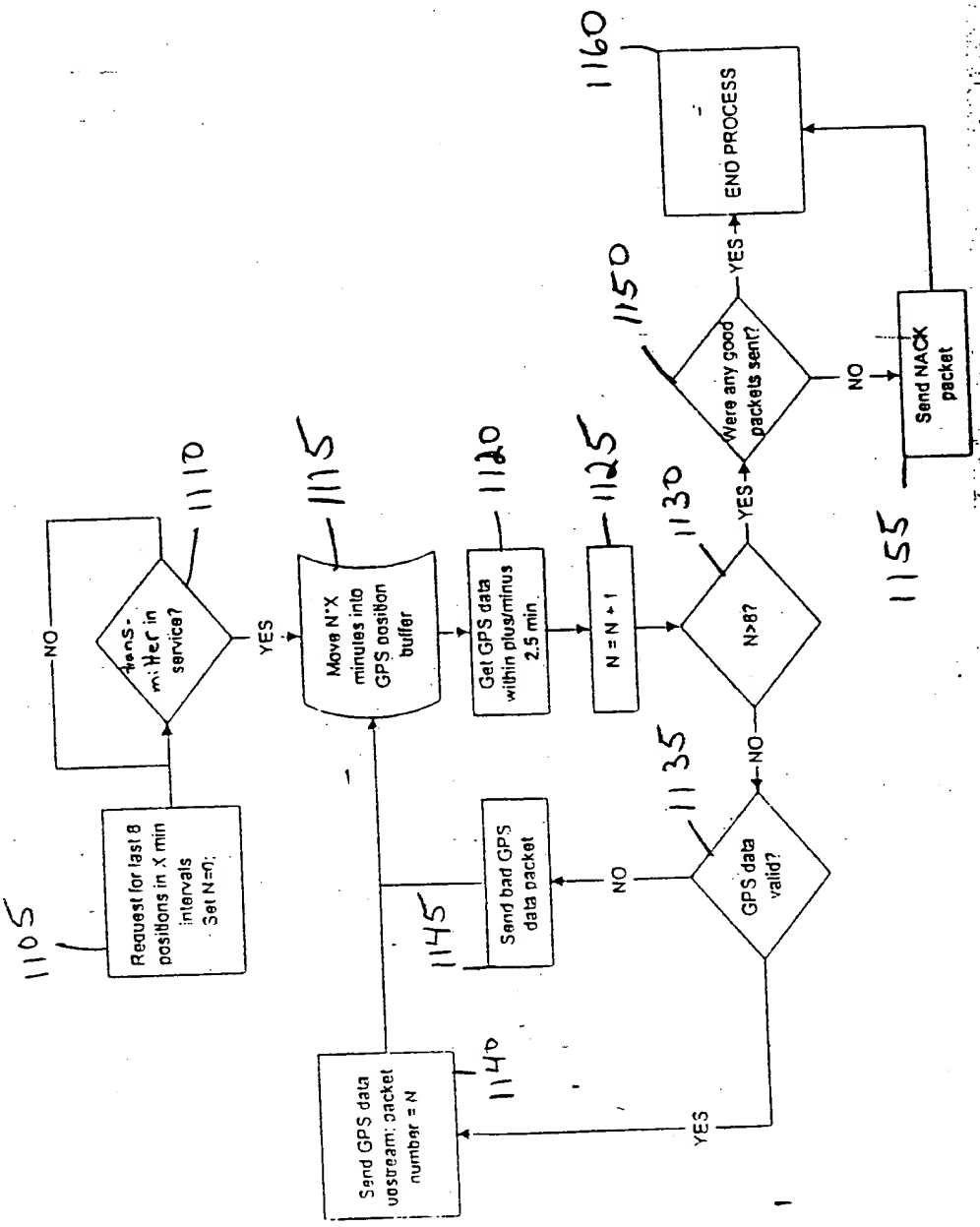
1017

FIG. 10

McCutchen, Doyle, Brown & Enersen, LLP (415) 393-2000
Three Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Brisiow, et al.
Titled: SOFTWARE AND PROTOCOL STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 14 of 19 Attorney Docket No. 22962-7005

McCutchen, Doyle, Brown & Enersen, LLP (415) 393-2000
Three Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOT STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 15 of 19 Attorney Docket No. 22962-7005

FIG. 11



McCutchen, Doyle, Brown & Enersen, LLP (415) 393-2000
Three Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOL STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 16 of 19 Attorney Docket No. 22962-7005

1205

Table 2 Upstream Microburst Data Format

Digit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	MSD	LSD	Dir	D_1	D_2	M_1	M_2	M_3	M_4	D_1	D_2	M_1	M_2	M_3	M_4
Content	Alarm Event and Speed		Di-rection	Longitude position offset data. Format: $D_1D_2M_1M_2M_3M_4$						Latitude position data. Format: $D_1D_2M_1M_2M_3M_4$					

1210 1215 1220 1225 1230

FIG. 12

McCutchen, Doyle, Brown & Enersen, LLP (415) 393-2000
Three Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOT STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 17 of 19 Attorney Docket No. 22962-7005

Table 3 Direction Code Map

Code	A	1	2	3	4	5	6	7	8
Meaning	N	NE	E	SE	S	SW	W	NW	Stopped*

*When vehicle is stopped, direction is not defined.

1305

1310

FIG. 13

[redacted]cCutchen, Doyle, Brown & Enersen, LLP (415) 393-2000 [redacted]
hree Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOT STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 18 of 19 Attorney Docket No. 22962-7005

Table 4 Upstream Message Codes

Reference Section(s)	Message Name	Alarm Event and Speed Code			
		SP1	SP2	SP3	SP4
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Sensor_A*	00	25	50	75
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Sensor_B*	01	26	51	76
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Sensor_C*	02	27	52	77
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Door_Trigger*	03	28	53	78
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Trunk_Trigger*	04	29	54	79
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Hood_Trigger*	05	30	55	80
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Ignition_Sensor*	06	31	56	81
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_3_Invalid_Valet_Codes*	07	32	57	82
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_BlackJax_Activation*	08	33	58	83
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_System_OK*	09	34	59	84
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Alarm_Reset*	10	35	60	85
Remote Vehicle Tracking**	*U_5_Min_Pos*	11	36	61	86
Remote Vehicle Tracking**	*U_1_Hour_Pos*	12	37	62	87
Remote Vehicle Tracking**	*U_Last_8_Stops_Pos*	13	38	63	88
Remote Vehicle Tracking**	*U_Stops_1_6_Time*	14	39	64	89
Remote Vehicle Tracking**	*U_Stops_7_8_Time*	15	40	65	90
Emergency Button and Impact Sensor Response	*U_Button_911*	16	41	66	91
Emergency Button and Impact Sensor Response	*U_Button_Roadside*	17	42	67	92
Emergency Button and Impact Sensor Response	*U_Button_Medical*	18	43	68	93
Remote Vehicle Control (G4 Systems Only)***	*U_Command_ACK*	19	44	69	94

*SP1 = 6-25 MPH;SP2 = 26-50 MPH;SP3 = 51-75 MPH;SP4 = >76 MPH

**Detail of these messages is defined in referenced document Clifford Vehicle Tracking Payload Protocol and Format

***Substitute ACK code (1 = received and handled, 2 = received and could not execute) for digit 3, digit 4 & 5 command code received per Table1

FIG. 14

[redacted]Cutchen, Doyle, Brown & Enersen, LLP (415) 393-2000
Three Embarcadero Center,
San Francisco, California 94111
Serial No.: Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOT STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No.: EL710236861US
Figure 19 of 19 Attorney Docket No. 22962-7005

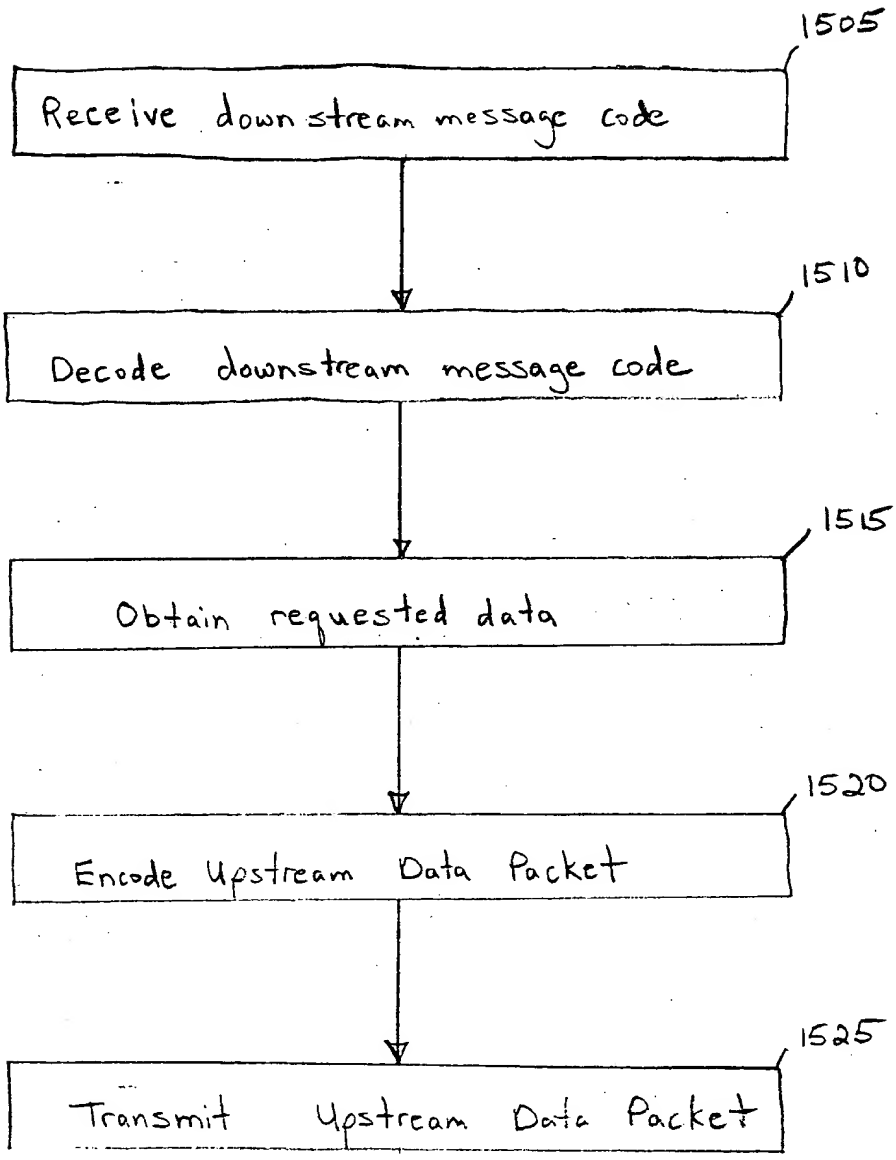


FIG. 15